

Appl. No. 10/500,657  
Amdt. dated May 24, 2010  
Reply to Office action of February 26, 2010

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-12. **(Canceled)**

13. **(Currently amended)** A cycle-based communication system for transmitting useful data between users of the system, including a data bus and the users connected to it, in which the data transmission is effected within cyclically repeating timeframes with at least two timeslots each, and each timeslot is intended for transmitting one message, one message contains at least some of the useful data, and each message is assigned an identifier, characterized in that the identifier is stored in each message as part of the message; that each message additionally includes data about [[the]] **a** cycle; that the timeslots have a fixed length; and that at least one of the timeslots of one timeframe can be used, in various cycles, for offset transmission of different messages that are not intended for transmission in every cycle, wherein the data about the cycle has either additional cycle data integrated with the identifier of each message, or a separate cycle counter integrated in each message, wherein each message is additionally assigned time data that pertain to a timeslot and that can be learned from the identifier, and wherein messages transmitted over the communication system whose identifier matches a predetermined identifier but which are of no interest to the

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user according to the data about the cycle contained in the message, are prevented from being loaded into the user.

14. **(Currently amended)** The communication system of claim 13, wherein the data about the cycle pertain to a current cycle.

15. **(Previously presented)** The communication system of claim 14, wherein the data pertaining to the current cycle include an ordinal number of the cycle.

Claims 16-18. **(Canceled)**

19. **(Previously presented)** The communication system of claim 13, wherein the time data include data about the chronological position of a timeslot within a timeframe.

Claim 20. **(Canceled)**

21. **(Currently amended)** The transmission method of claim [[20]] 34, wherein the users of the communication system are each allocated at least one predetermined timeslot of the timeframes for data transmission.

22. **(Currently amended)** The transmission method of claim [[20]] 34, wherein data pertaining to [[the]] a current cycle are additionally stored in memory in each message.

23. (Currently amended) The transmission method of claim 21, wherein data pertaining to [[the]] a current cycle are additionally stored in memory in each message.

24. (Previously presented) The transmission method of claim 22, wherein the data pertaining to the current cycle are stored in memory in a message as part of the identifier of that message.

25. (Currently amended) The transmission method of claim 22, A method for transmitting useful data in a cycle-based communication system between users of the system via a data bus, to which the users are connected, having method steps of:

transmitting the useful data within cyclically repeating timeframes each with at least two timeslots, and in each timeslot transmitting one message;

storing at least some of the useful data in memory in a message, and assigning each message an identifier;

transmitting the messages in timeslots of fixed length;

storing the identifier in memory in the message as part of the message;

in each message, storing data about a cycle are stored in memory;

in at least one of the timeslots of a timeframe, transmitting different messages offset from one another in various cycles, and in the at least one timeslot, transmitting those messages that are not intended for transmission in every cycle offset from one another;

using either additional cycle data integrated with the identifier, or using a separate cycle counter integrated in the message;  
additionally assigning each message time data that pertain to a timeslot and that can be learned from the identifier; and  
preventing messages transmitted over the communication system whose identifier matches a predetermined identifier but which are of no interest to the user according to the data about the cycle contained in the message, from being loaded into the user,

wherein data pertaining to a current cycle are additionally stored in memory in each message; that the messages transmitted over the data bus in the timeslots of the timeframes are observed by the users of the communication system; that either the identifiers or the data pertaining to the current cycle of the messages are compared with predetermined values respectively, stored in memories of the observing users, for the identifier and the data pertaining to the current cycle, and at least the useful data of a transmitted message are received by the user only if the identifier and the data pertaining to the current cycle of the message match the predetermined values, stored in the memory of the user, for the identifier and the data pertaining to the current cycle.

26. (Currently amended) The transmission method of claim 23, A method for transmitting useful data in a cycle-based communication system between users of the system via a data bus, to which the users are connected, having method steps of:

transmitting the useful data within cyclically repeating timeframes each with at least two timeslots, and in each timeslot transmitting one message;

storing at least some of the useful data in memory in a message, and assigning each message an identifier;

transmitting the messages in timeslots of fixed length;

storing the identifier in memory in the message as part of the message;

in each message, storing data about a cycle are stored in memory;

in at least one of the timeslots of a timeframe, transmitting different messages offset from one another in various cycles, and in the at least one timeslot, transmitting those messages that are not intended for transmission in every cycle offset from one another;

using either additional cycle data integrated with the identifier, or using a separate cycle counter integrated in the message;

additionally assigning each message time data that pertain to a timeslot and that can be learned from the identifier; and

preventing messages transmitted over the communication system whose identifier matches a predetermined identifier but which are of no interest to the user according to the data about the cycle contained in the message, from being loaded into the user.

wherein the users of the communication system are each allocated at least one predetermined timeslot of the timeframes for data transmission; that data pertaining to a current cycle are additionally stored in memory in each message; that the messages

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transmitted over the data bus in the timeslots of the timeframes are observed by the users of the communication system; that either the identifiers or the data pertaining to the current cycle of the messages are compared with predetermined values respectively, stored in memories of the observing users, for the identifier and the data pertaining to the current cycle, and at least the useful data of a transmitted message are received by the user only if the identifier and the data pertaining to the current cycle of the message match the predetermined values, stored in the memory of the user, for the identifier and the data pertaining to the current cycle.

27. **(Currently amended)** The transmission method of claim 22, wherein [[the]] data traffic on the data bus of the communication system is observed; current cycle data are monitored by the users; and a message is sent by a user in a predetermined timeslot only if the current cycle data match a predetermined value, stored in a memory of the user, for the data pertaining to the current cycle.

28. **(Currently amended)** The transmission method of claim 23, wherein [[the]] data traffic on the data bus of the communication system is observed; current cycle data are monitored by the users; and a message is sent by a user in a predetermined timeslot only if the current cycle data match a predetermined value, stored in a memory of the user, for the data pertaining to the current cycle.

29. **(Currently amended)** The transmission method of claim 24, wherein [[the]] data traffic on the data bus of the communication system is observed; current cycle data are monitored by the users; and a message is sent by a user in a predetermined timeslot only if the current cycle data match a predetermined value, stored in a memory of the user, for the data pertaining to the current cycle.

30. **(Currently amended)** The transmission method of claim 25, wherein [[the]] data traffic on the data bus of the communication system is observed; current cycle data are monitored by the users; and a message is sent by a user in a predetermined timeslot only if the current cycle data match a predetermined value, stored in a memory of the user, for the data pertaining to the current cycle.

31. **(Currently amended)** The transmission method of claim 26, wherein [[the]] data traffic on the data bus of the communication system is observed; current cycle data are monitored by the users; and a message is sent by a user in a predetermined timeslot only if the current cycle data match a predetermined value, stored in a memory of the user, for the data pertaining to the current cycle.

32. **(Currently amended)** The transmission method of claim [[20]] 34, wherein either a MUX bit is used to store data pertaining to [[the]] a current cycle in the message or a separate cycle counter is used to store data pertaining to the current cycle in the message.

33. **(Currently amended)** The communication system of claim 13, wherein either a MUX bit is used to store data pertaining to [[the]] a current cycle in the message or a separate cycle counter is used to store data pertaining to the current cycle in the message.

34. **(New)** A method for transmitting useful data in a cycle-based communication system between users of the system via a data bus, to which the users are connected, having method steps of:

transmitting the useful data within cyclically repeating timeframes each with at least two timeslots, and in each timeslot transmitting one message;

storing at least some of the useful data in memory in a message, and assigning each message an identifier;

transmitting the messages in timeslots of fixed length;

storing the identifier in memory in the message as part of the message;

in each message, storing data about a cycle are stored in memory;

in at least one of the timeslots of a timeframe, transmitting different messages offset from one another in various cycles, and in the at least one timeslot, transmitting those messages that are not intended for transmission in every cycle offset from one another;

using either additional cycle data integrated with the identifier, or using a separate cycle counter integrated in the message;

additionally assigning each message time data that pertain to a timeslot and that can be learned from the identifier; and

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preventing messages transmitted over the communication system whose identifier matches a predetermined identifier but which are of no interest to the user according to the data about the cycle contained in the message, from being loaded into the user.